

Lingering Smoke Exercise

Problem Booklet

Instructions

Read the problem situation described on the next page. Study the map until you understand the location of the miners and equipment in the problem. Next, answer each of the 9 questions. Do them one at a time. Don't jump ahead, but you may look back to earlier questions and answers. For most of the questions, choose only one answer unless you are told to "Try again!" One question asks you to select as many answers as you think are correct. Follow the instructions for each question.

After you have selected a choice to a question, look up its number on the answer sheet. Select your answer to each question by rubbing the developing pen between the brackets on the answer sheet. A hidden message will appear and tell you if you are right. When you have finished, you will learn how to score your performance.

Lingering Smoke Exercise

Background

Drift mine
28 inch coal
Shooting from the solid in virgin coal
Scoop haulage
Good top

Problem

You are one of three scoop operators. During the first part of the shift, entries 1 and 2 were loaded. Entry 3 was shot and partly loaded. One of the other scoop operators, Speedy, complained that he was dizzy and sick to his stomach when he was at the face. Otherwise the shift has gone as usual.

It is now lunch time. Entry 4 (the heading and the right crosscut) was just shot. You and the rest of the crew are eating lunch outside and waiting for the smoke and fumes to clear before you reenter the mine to clean up entry 3 and load out 4.

Figure 1, on the next page, shows a map of the section. Ventilation and the location of the phone and SCSRs are just as they appear. After studying the figure, turn the page and answer the first question.

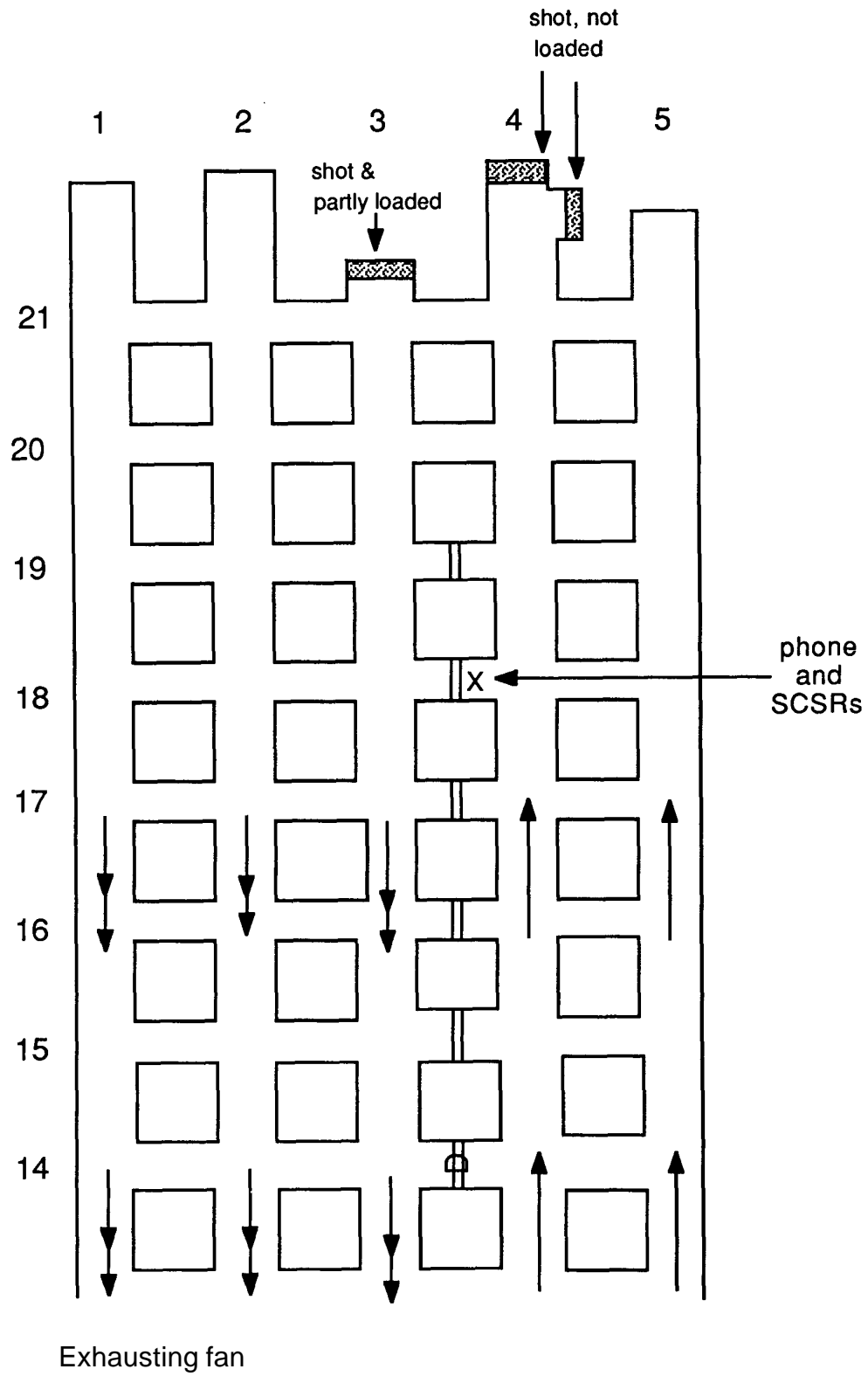


Figure 1: Section Map

Question A

Speedy and Chester, the third scoop operator, tram their scoops in to start loading out entry 4. The assistant foreman is riding to the face with Speedy. You get into your scoop and follow them in on your way to clean up entry 3. When you get to cross cut 20 you see that some smoke is still hanging. The first two scoops have already started into entry 4. The smoke looks thicker there. What should you do? (Choose only ONE unless you are told to "Try again!")

1. Stop your scoop and go into the entry to see what the others are going to do about the smoke.
2. Yell and ask the assistant foreman if he wants you to hang a check curtain in number 20 crosscut between entries 3 and 4.
3. Go on to entry 3 and do your job.
4. Hang a line curtain into entry 3 before you begin cleaning it up.

Question B

When you bring the last load outside from entry 3, the drill man and shooter ask for a ride to entry 1. You tell them that you feel dizzy and sick to your stomach. The driller says, "You scoop operators, you're always complaining about something."

As you go toward the face of entry 1, you pass Speedy's scoop. He says that Chester's scoop is stuck in the mud and he's on his way back from the shop with a chain to pull him out. He tells the drill man that the assistant foreman is marking entry 5.

After you drop off the drill man and shooter, you return to entry 4. As you go toward the entry, Speedy yells that Chester has passed out on his scoop. What should you do? See the map on page 6 for the locations of people and equipment. (Choose only ONE unless you are told to "Try again!")

5. Telephone outside for help.
6. Go get the assistant foreman.
7. Go in and help pull Chester out of his scoop.
8. Tell Speedy to get out of the entry.

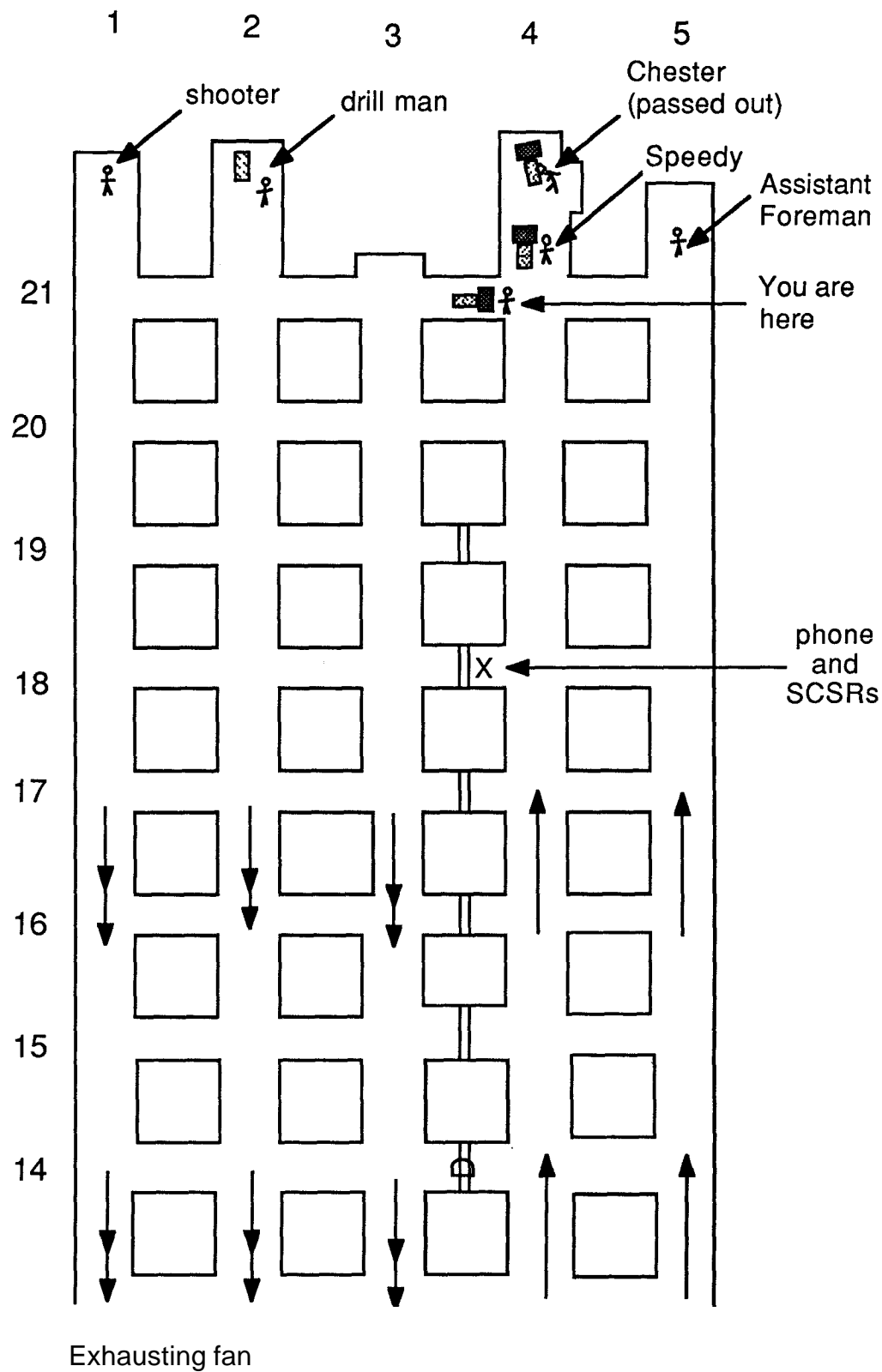


Figure 2: Section map with location of people and equipment

Question C

Speedy yells that he will not leave Chester. What should you do now? (Choose only ONE unless you are told to "Try again!")

- 9. Go into the entry and help Speedy so that he can get Chester out faster.
- 10. Go look for ventilation curtain while Speedy helps Chester.
- 11. Go get the assistant foreman.
- 12. Go to Speedy and force him to come out of the entry.

Question D

The assistant foreman tells you to go call outside for an ambulance while he helps Speedy with Chester. You go and make the call. When you get back to entry 4, you see that Speedy is down near Chester's scoop. The assistant foreman is slowly moving toward them. What should you do? (Choose only ONE unless you are told to "Try again!")

13. Go into the entry and help the foreman take care of Chester and Speedy.
14. Run into the entry to get the assistant foreman and bring him out of the entry.
15. Yell to the assistant foreman to get out and then go get the shooter and drill man to help you.
16. Go get some SCSRs and then come back to help the assistant foreman and scoop operators.

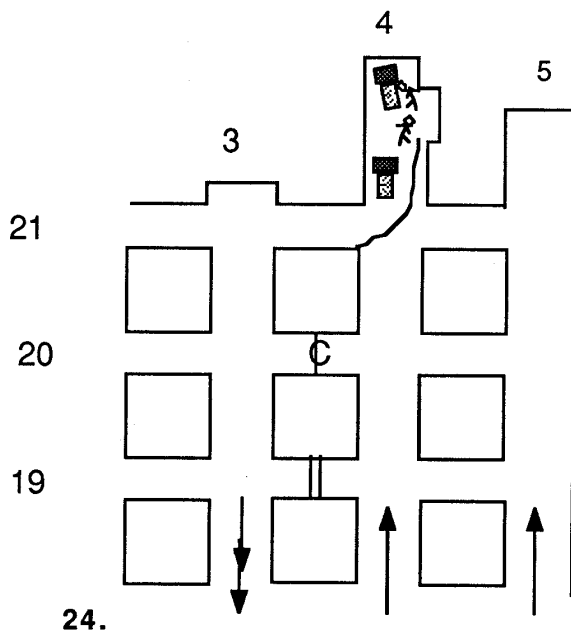
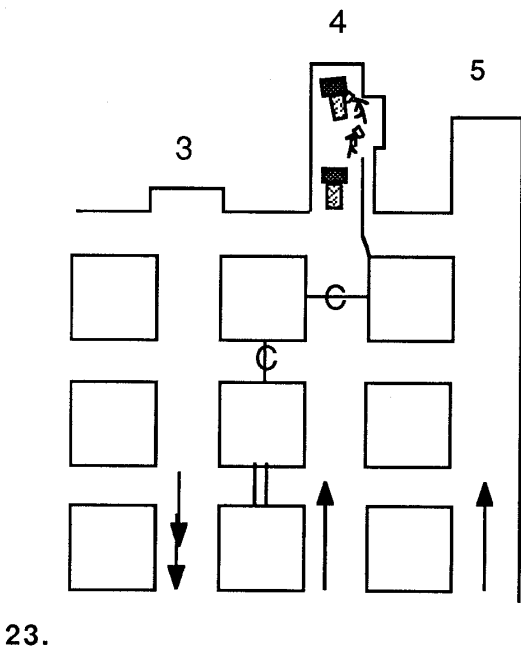
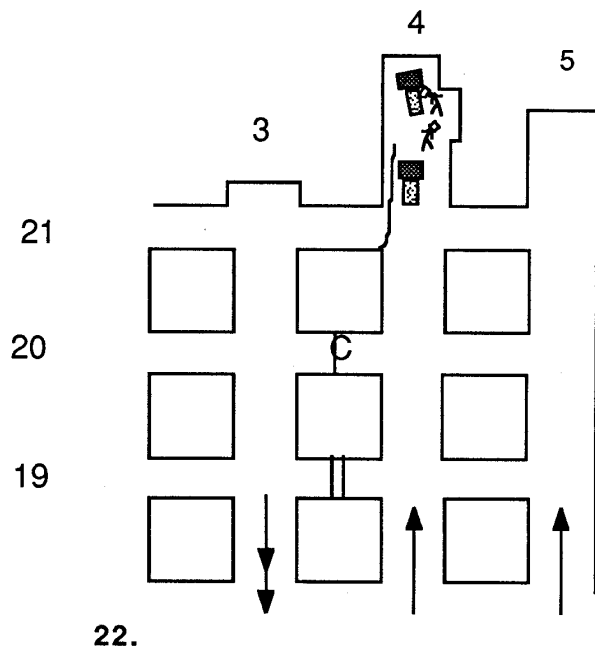
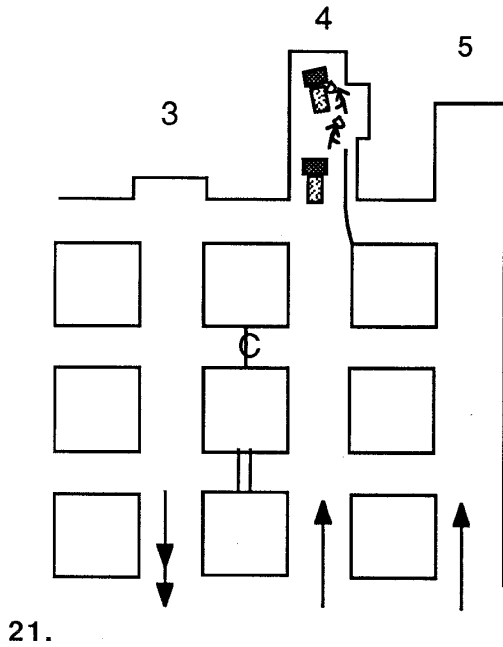
Question E

When you, the shooter, and the drill man get to entry 4 the assistant foreman is down. How should you help the three unconscious miners? (Choose only ONE unless you are told to "Try again!")

- 17. Ventilate entry 4.
- 18. Each of you hold your breath, then go in and drag the men to safety.
- 19. All of you should get the SCSRs, put them on, and go in and drag the men to safety.
- 20. Call for a mine rescue team.

Question F

In order to quickly and safely ventilate entry 4, which map shows how you should hang curtains? (Choose only ONE unless you are told to "Try again!")



Question G

You have decided on the best way to ventilate #4 entry. Now you need to recover the victims. What is the safest way do this? (Choose only ONE unless you are told to "Try again!")

- 25. Call outside for a CO spotter.
- 26. Don't try to recover victims yourselves. Wait for the rescue team.
- 27. Advance the curtain up the right side of entry #4, keeping yourselves in good air.
- 28. Install line posts on 5-foot centers on the right side of the entry. Hang a line curtain on them as you advance.

Question H

You and your two buddies bring the three victims out of the mine and they are taken to a local hospital. Chester died from CO poisoning, but Speedy and the assistant foreman survived.

Looking back on the accident what things should have been done to prevent it? (Select as MANY as you think are correct.)

- 29. Preshift examination should have indicated that ventilation had fallen behind.
- 30. A flame safety lamp should have been used to check for CO as soon as Chester went down.
- 31. The assistant foreman and crew members should have detected and corrected inadequate ventilation.
- 32. Gas checks should have been made as soon as scoop reached the working face.
- 33. You and Speedy should have questioned why you were feeling ill.

When you have made your selection(s), do the next question.

Question I

On your answer sheet, list all of the federal, state or company violations, or bad practices, that occurred in this problem.

End of Problem

This exercise is based on an actual accident in which 3 miners were killed and another was hospitalized. The miners' failure to recognize CO poisoning and their returning to bad air in attempts to rescue others contributed to their deaths.

Scoring your performance

1. Count the total number of responses you colored in that were marked "correct." Write this number in the first blank on the answer sheet.
2. Count the total number of "incorrect" responses you colored in. Subtract this number from 23. Write the difference in the second blank on the answer sheet.
3. Add the numbers on the first and second blanks. This is your score.

The best possible score of 33 results from selecting all the correct answers and no wrong answers. The worst possible score of zero results from selecting all the wrong answers and no correct answers.